

The Influence of Visual Design in Social Media on the Branding of Makerspaces

Peng Chengkun^{1*}, Ajmera Mohan Singh²

^{1&2} School of Performing Arts and Design (SPAD), Lincoln University College, Malaysia

***Corresponding author: chengkun.phdscholar@lincoln.edu.my**

Abstract

Visual design components such as colour, typography, and images are crucial to a successful brand identity because social media has drastically changed branding tactics and visual interaction. Chinese makerspaces are depending more on social media to foster creativity and community involvement, but little is known about how visual design influences their branding. Henceforth, the current research study has the goal of examining the association between visual design and social media, considering a precise mediating role on the branding of makerspaces. The present research employed a cross-sectional, quantitative study design to gather data. Simple random sampling was utilised in this study to select 649 supporters from social media makerspaces in Guangdong Province, China. Survey questionnaires were employed to collect data. Additionally, the researcher conducted an Analysis of Variance (ANOVA) to identify the significant connection between the research variables and descriptive analysis to examine the fundamental patterns of the data. The findings identified that visual design materials significantly influenced social media platforms from the perspective of the branding effectiveness of makerspaces. These results suggested that visual communication techniques in making social media posts played a role in enhancing brand recognition, audience engagement, and credibility. According to the conclusions of the study, it is essential to understand the effects of visual communication to promote efficiency in the entire operation of makerspaces in Guangdong Province, China. Moreover, the consistent use of visual aspects, including colour, typography, images, and layout, helped increase brand recognition and, consequently, affected the efficiency of the makerspace.

Keywords: *Branding of Makerspaces, Social Media, Visual Design, Visual Communication*

Introduction

The extremely continuous evolution of digital technological approaches has completely changed the way businesses interact and preserve their identities in the current digital world. In this evolving context, digital media has evolved into a significant medium for interacting with users and sharing information. It promotes the development of brands. Visual design has a big influence on audience perceptions and is a crucial component of social media communication. In addition, it affects a unified company identity. Makerspaces are cooperative settings that foster invention, creativity, and hands-on learning. The purposeful use of graphic design in social media has become more well-known for boosting branding efforts and increasing exposure. A makerspace is a place where people who are interested in technology may work together on projects and

exchange information and ideas. Even though the public sector has shown a great deal of interest in makerspaces and is confident in its contribution to the innovation ecosystem (Radu & Schneider, 2023).

Makerspaces are communal settings where people work together to create using digital fabrication equipment and community-driven learning initiatives. These areas have become well-known around the world as inspiration for innovation and business. It often promotes skill development and multidisciplinary cooperation. However, makerspaces are depending more on digital channels to create their identity and visibility outside of their physical locations. Previous studies emphasised that social media shapes initial views and affects participant access while acting as a gateway to makerspaces. This showed that it is extremely vital for makerspaces to express themselves visually in the virtual spaces (Jongmans et al., 2022). Another research also evaluating makerspace online postings and transparency has a significant influence on the way prospective users see these places. The way makerspaces are portrayed on social media shows that digital content promotes diversity and audience engagement over time, in addition to reflecting the ideals and activities of these spaces. Branding outcomes depend heavily on the visual and communication strategies used on virtual media platforms (Himawati et al., 2025).

The influence of user engagement and information processing highlights the visual design in social media. Visual features can expand the clarity of information and draw our emotional responses. It promotes reinforcing brand awareness and loyalty with memorability. Creativity and innovation are critical in makerspaces. The social media posts which are aesthetically pleasing and strategically crafted can improve a unique corporate identity and distinguish one makerspace from another makerspace (Zakoth et al., 2024).

Review of Related Literature

In current research on the digital era, the function of visual design as a variable in technology and digital interaction is important. Online users who depend on visual design to understand visualised algorithms and their interactions inside digital environments are all facilitated and mediated by the branding of makerspaces (Akahome, 2026). Prior research has investigated the impact of visual interaction design elegance on enhancing customer purchasing behaviour on digital media. The research demonstrated the impact of colour typography and images on consumer impressions and purchasing decisions. The prior research also emphasised that consumer attention and trust in items have developed by aesthetically pleasing and well-structured designs (Chan et al., 2023). On the other hand, the research of Sugiyarto (2025) elaborated that visual quality improved brand image, thereby fostering purchasing intentions. Furthermore, reliability in visual style across social media platforms enhanced brand awareness and credibility. The study determined that organisations adeptly implemented visual communication design concepts, which are more inclined to attract consumers and enhance their purchasing power in the competitive digital marketplace (Sugiyarto, 2025).

Another research by Tsai and Shyr (2022) examined the variables affecting visual perception reactions to video communication on virtual media sites. The study aimed to determine the way audiences perceived and responded to visual elements embedded in social media video content. This study revealed that visual clarity and colour composition substantially affected audience engagement and perception (Tsai & Shyr, 2022). However, Soomro et al. (2022) contended that well-organised and aesthetically pleasing

videos developed viewers' understanding and emotional reactions, while proficient visual communication improved message transmission and audience retention. The research mostly concentrated on the technical and aesthetic aspects of visual communication, with little discourse on cultural preferences. The study also demonstrated the enduring efficacy of visual tactics across various digital platforms. The study primarily focused on audience emotions, neglecting to critically analyse the way algorithmic exposure and platform-specific attributes may influence engagement levels. Notwithstanding these constraints, the research offered a significant paradigm for comprehending the way of visual design aspects affect audience perception and engagement in digital communication situations (Soomro et al., 2022).

Additionally, Melo and Rodney (2023) investigated the influence of first impressions on novice experiences in makerspaces and emphasised certain design features. The research examined the influence of layout labelling and ambient design on customers' understanding and willingness to engage. The research indicated that a straightforward and visually appealing interface was crucial for guiding new users and reducing confusion. The study revealed that positive first perceptions encouraged further involvement and exploration. The research determined that intentional visual design and effective signage communication are essential for enhancing user experience and strengthening the branding and functioning of makerspaces (Melo & Rodney, 2023). This research provided substantial insights into the way minor elements influence involvement in makerspaces. Research by Himawati et al. (2025) examined the incorporation of innovative design and visualised branding in digitalised marketing techniques to enhance brand consciousness and marketplace identification for micro and medium-sized enterprises. The study analysed the role of creative graphic content in fostering a strong brand identity across all digital platforms. The findings showed that innovative visual branding has the ability to enhance customer awareness and engagement. Moreover, the combination of branding and design can increase loyalty and trust among customers. Hence, the companies that use creative visual design in digital marketing seem to achieve better visibility and a unique market identity (Himawati et al., 2025).

Syntactic Theory by Lester (2006) of Visual Communication that clarified the way the arrangement of visual components, including colour, shape, size, and layout, influenced the meaning construction. The theory emphasised that audiences interpret pictures based on structural links and that effective design organisation improves clarity, concentration, and message transmission in visual media (Lester, 2006). Recent research has used the Syntactic Theory of Visual Communication. The previous study of Panayides and Xinari (2024) demonstrated that poster designs communicated themes of conflict using visual elements like symbols, colour, and composition. The research evaluated that viewers perceived these visuals both emotionally and intellectually, with a structured design enhancing meaning and making complex themes of conflict more significant and understandable (Panayides & Xinari, 2024). The Syntactic Theory of Visual Communication provides a relevant theoretical framework for understanding the way visual design elements in social media influence the branding of makerspaces by enhancing audience perception and facilitating effective brand messaging.

Objectives

To evaluate the effect of visual design on social media, considering the mediating role of the branding of makerspaces.

Methodology

Research Design and Procedure

This current research utilised a quantitative, cross-sectional research design to explore the influence of social media visual design on the branding of makerspaces in Guangdong Province, China. The approach facilitated the gathering of data from respondents at a specific time frame to quantify trends and examine the relationship between the research variables. Appropriate respondents received an online structured questionnaire designed to collect data. The survey instrument was created during the study procedure, utilising the research variables. Cronbach's Alpha was utilised for reliability assessment, while a pilot test was conducted to verify validity. The delivery of the questionnaire to the selected sample and statistical analysis utilising SPSS version 25 facilitated the identification of the interrelationship between visual design and social media, as mediated by branding of makerspaces. The extent and orientation of the statistical association were indicated within the confidence interval at 95%. The researcher established the statistical significance at $p < 0.05$. The researcher employed ANOVA for data assessment and utilised descriptive analysis to delineate the fundamental characteristics of the data.

Operational Framework



Subjects or Data Sources

A survey was conducted to collect primary data for the research. Supporters from social media makerspaces in Guangdong Province, China, provided data, as they had expertise in makerspace activities and online engagement. The survey comprised two sections: (a) demographic data of the respondents, and (b) statements evaluated on a 5-point Likert scale to assess the influence of visual design in social media on the branding of makerspaces.

Instrumentation and Data Analysis

The current study employed a simple random sample method to identify genuine and pertinent respondents within the research framework. The Raosoft tool suggested 620 research subjects for data gathering in the study. Consequently, 780 survey questionnaires were disseminated to the participants. Researchers received 725 completed questionnaires, of which 76 were eliminated due to incorrect or incomplete responses. Consequently, the final sample size was 649. Statistical analysis was conducted utilising Microsoft Excel and SPSS version 25 for the research study. The researcher employed the descriptive analysis method to understand the essential elements of the gathered data, while ANOVA was utilised to assess the collected data.

Limitations

The research into the influences of visual design components in digital media on the branding of makerspaces had several limitations inherent to quantitative research. The application of closed-ended survey questions prevented respondents from giving detailed answers, thus making it impossible to gather more complex responses regarding the context behind their perception of various visual design elements. The study focused on assessing

the effects of visual design elements on branding success. Nevertheless, the quantitative data used often simplified the difficult connection between visual design, audience engagement, and branding. Additionally, the data collected during research was only provided by supporters of makerspaces on social media in Guangdong Province, China. The use of such data raised some concerns regarding its validity since it was hard to generalise the findings obtained as the study was confined to one province. Cultural and technological differences made the findings less relevant for other parts of the country or abroad. The cross-sectional research design made it difficult to identify any cause-and-effect relations. The data obtained during the study could not show any dynamics of audience engagement and branding success.

Analysis

Factor Analysis

The goal of Factor Analysis (FA) is to discern previously unrecognised elements from observed variables. Regression coefficients are frequently employed in assessments when there are no discernible visual or diagnostic cues. The preliminary aim of the analysis is to determine any discernible correlations, susceptibility, or breaches. Kaiser-Mayer-Olkin (KMO) test datasets are obtained from various regression analyses. The findings indicate that both the theoretical model and its randomly chosen components produce dependable estimates. The possibility of identifying duplicate data entries is present. The data becomes clearer when the proportions are simplified. KMO provides a numerical value to the researcher, spanning from 0 to 1. The KMO value, between 0.8 and 1, signifies an appropriate sample size.

Kaiser has determined that the following sums are appropriate: Those that follow are the permission criteria according to Kaiser's recommendations:

An appalling 0.050 to 0.059, well below the usual range of 0.60 to 0.69. The typical range for middle grades is between 0.70 and 0.79.

A quality point score between 0.80 and 0.89. The interval from 0.90 to 1.00 astounds them.

Table 1: Examination of KMO and Bartlett's Sampling Adequacy

According to the Kaiser-Meyer-Olkin scale: 0.879

The results of Bartlett's test of Sphericity are as follows:

4853.245 is the approximate chi-square value

190 is degrees of freedom (df); sig = 0.000.

Table 1: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.879
Bartlett's Test of Sphericity	Approx.Chi-Square	4853.245
	df	190
	Sig.	0.000

The researcher utilised Bartlett's Sphericity Test to evaluate statistical significance in the correlation matrices. A sample size was considered appropriate when the KMO score attained 0.879. Bartlett's Test of Sphericity produces a distinct p-value of 0.00. It was logical to deduce that the correlation matrix is not considered an identity matrix, given the favourable outcomes of Bartlett's Test of Sphericity.

Independent variable

Visual Design

This is essential in developing stories about their brands and ensures that the brands differentiate themselves from their competitors. Visual Design is defined as the arrangement of visual elements with the focus of delivering a message and evoking emotional responses. The creative elements of visual design are very helpful in marketing products to consumers. Social media plays an essential role in delivering a message to the intended audience. The application of visual design is broad within various disciplines such as graphic design, web design, advertising, and digital media. This is due to these disciplines play a major role in influencing perceptions and understanding of the information delivered to the audience (Jongmans et al., 2022). Therefore, visual design involves aesthetics and communication. The principles of balance, alignment, hierarchy, proportions, and consistency act as guides in capturing the viewers' attention and interpreting the message.

Mediating Variable

The Branding of Makerspaces

The idea of makerspaces has proliferated globally and is providing digital fabrication tools to a diverse audience in recent years. This phenomenon is referred to as the maker movement. It originated from the do-it-yourself and hacker cultures. Makerspaces are referred to as fablabs or hackerspaces. It is physical environments that provide access to communal fabrication gear, such as 3D printers, laser cutters, woodworking and metalworking facilities. Individuals utilising such facilities are referred to as makers. The maker community is defined by innovative methods within makerspaces. These include internal drive and a trial-and-error methodology (Zakoth et al., 2024). Makerspaces enhance a culture of sharing. Branding in makerspaces embraces components such as visual identity (logos, colour schemes, and design aesthetics), message, and narrative construction. These characteristics collectively articulate the makerspace's mission that emphasises education as well as creativity and technological innovation. The branding of makerspaces has enriched entrepreneurship. A clearly articulated brand enables consumers to comprehend the essence of the makerspace and its capacity to facilitate their educational or project development requirements. Moreover, branding is essential in influencing perceptions and enhancing engagement. Makerspaces may augment exposure and credibility through constant communication across digital platforms, social media, and real environments. Vigorous branding encourages collaboration by cultivating a sense of belonging and a collective purpose among users (Allen et al., 2023).

Dependent Variable

Social Media

Social media can be defined as the development of Web 2.0 applications, which were constructed to enhance transparent communication and interaction. Social networking sites are large online networks designed to help people communicate and exchange information online in the digital era. Social media platforms are becoming increasingly popular. It is both a mirror and a shaper of human consciousness. Social media is more than just digital channels meant for communication purposes. It is a culture-changing phenomenon which

has changed knowledge production and consumption. Social media usage has brought about huge changes in self-concept as well as organising movements and firms. Social media greatly affects public opinion. In many cases, it affects behaviour and helps disseminate information quickly. Social media allows people to communicate through text, pictures, videos, and interactivity. Social media impacts personal and professional communication in a significant way. In addition, social media has evolved into an essential tool for marketing and branding (Kanchan & Gaidhane, 2023).

Relationship between visual design and social media, considering the mediating role of the branding of makerspaces:

Visual design and social media have significant roles in making it easier to brand makerspaces. Visual design is the first contact of makerspaces with the people who follow them on social media channels. Well-versed visual design increases the beauty of aesthetics and ensures that the material gets attention in the highly competitive world of social media, where visuals play an important role. Good visual design makes it possible to develop a brand identity for makerspaces. They can create recognition and trust in their target audience by ensuring consistency in visuals across all articles and posts they share. Infographics, videos, and other visual content can be a substantial way to showcase projects in makerspaces and conduct workshops. Such a technique will help to make sure that all the data is both attractive and comprehensible. Not only will makerspaces help the audience understand the project, but they will also encourage people to interact and exchange ideas. Attractive pictures can become a source of high-quality design since social media algorithms prioritise them. Thus, this method will become an effective one in terms of increasing visibility and reaching the target audience. Makerspaces featuring attractive visual designs will have more chances to attract followers, partners, and stakeholders. Incorporating visuals into social media marketing strategy will result in successful branding and the creation of vibrant and innovative makerspaces online (March et al., 2022).

The researcher has developed a hypothesis to understand the relationship between visual design and social media, considering the mediating role of the branding of makerspaces, based on the preceding discourse:

“H₀₁: There is no significant relationship between visual design and social media, considering the mediating role of the branding of makerspaces.”

“H₁: There is a significant relationship between visual design and social media, considering the mediating role of the branding of makerspaces.”

Table 2: H₁ ANOVA Test

ANOVA					
SUM					
	Sum of Squares	df	Mean Square	F	Sig
Between groups	90,646.239	270	6070.129	1118.299	0.000
Within Groups	627.634	378	5.428		
Total	91,273.873	648			

The study had produced significant results. The F-value of 1118.299 and p-value < 0.05 established statistical significance of the data. Hence, the researcher accepted the alternative hypothesis, ***“H₁: There is a significant relationship between visual design and social media, considering the mediating role of the branding of makerspaces”***, and rejected the null hypothesis.

Findings and Discussion

The study examined the significant association among the research variables. The KMO value of 0.879 showed the sample adequacy. Moreover, Bartlett's Sphericity Test indicated the statistical significance of the correlation matrix, which indicated that it was suitable for FA. Additionally, the significant results from ANOVA exhibited statistical significance among the variables, which led the researchers to reject the null hypothesis. Hence, these results identified that visual design has a significant effect on social media, along with the mediating role of the branding of makerspaces. It became evident from the analysis that efficient visual design enhanced the identification of the brands. It improved the engagement and communication of the social media consumers to identify the associated impact of all the research variables.

The outcomes of the research showed that visual design had an effect on the branding of makerspaces via social media platforms. Such visual design components as colour, fonts, and images have been proven to increase the efficiency of communication strategies adopted by makerspaces. These aspects helped improve both the quality of messages delivered on social media and brand identity and consistency. It became clear that organised visual design could increase user engagement through improved aesthetics and message clarity. Users tended to have greater preferences for makerspaces which managed to maintain consistent visual aesthetics across all social media channels. Consistent visual design corresponded to better brand recognition and more positive attitudes of the audiences towards makerspaces. Thus, it became clear that visual design has a significant role in establishing the credibility of makerspaces. Well-designed, professional-looking social media profiles looked more credible and reputable to the target audience. From the findings, it is evident that there was a mediating role of branding between visual design and social media performance. Visual design was not an isolated practice; instead, its performance was improved when branding was applied together with the process. The findings demonstrated that excellent visual designs improved brand performance and increased the performance of communications in makerspaces on social media platforms.

Conclusion

The research concluded that visual design significantly enhanced the branding of makerspaces through social media channels. The appropriate use of colour and layout helped in creating a consistent brand image. The findings showed that well-organised visual content enhanced communication strategies by making the information more engaging for the audience. It demonstrated that consistency and visual design quality across all social media platforms strongly impacted the engagement of audience and brand awareness. Makerspaces that align with a consistent visual identity developed more positive perspectives and better customer relationships. The study found that professional and visually appealing designs enhanced the credibility and authenticity of makerspaces. Furthermore, the research demonstrated that the branding of makerspaces functioned as a mediating variable between visual design and the efficacy of social media. The impact of visual design was amplified when aligned with explicit branding efforts. The study indicated that the incorporation of strategic visual design principles enhanced the visibility and communication efficacy of makerspaces through consistent branding approaches in the contemporary digital landscape.

The results of the research offered various practical and theoretical implications for the managers of makerspaces, digital marketers and branding professionals. The results of this

study indicated that makerspaces gained advantages from using uniform visual communication tactics to enhance brand identification and increase audience engagement. The study also may indicate that the strategic use of colour, typography, layout, and imagery augmented the credibility and exposure of makerspaces on social media platforms. The research suggested that makerspace administrators and digital marketers must focus on attractively arranged material to attract followers and sustain robust online engagement. The study theoretically substantiated the significance of the Syntactic Theory of Visual Communication in elucidating the impact of organised visual elements on audience perception and branding results. The research may suggest that educational institutions and creative groups may use strategic visual branding strategies to foster creativity, collaboration, and community engagement through digital platforms.

References

- Akahome, J. E. (2026). Designing inclusive learning spaces in higher education: examining how physical and digital space design (learning commons, makerspaces) fosters community and engagement. *Information and Learning Sciences*, 1-18.
- Allen, K. H., Balaska, A. K., Aronson, R. M., Rogers, C., & Short, E. S. (2023, October). Barriers and benefits: The path to accessible makerspaces. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1-14).
- Chan, I. C. C., Chen, Z., & Leung, D. (2023). The more the better? Strategizing visual elements in social media marketing. *Journal of Hospitality and Tourism Management*, 54, 268-289.
- Himawati, D., Riswanti, S., Sitanggang, P. B., Apriyanti, R., & Akhirson, A. (2025). Integration of Creative Design and Visual Branding in Digital Marketing Strategy: Analysis of Innovation to Increase Brand Awareness and Market Identity of MSMEs. *International Journal of Integrative Research*, 3(10), 717-730.
- Jongmans, E., Jeannot, F., Liang, L., & Dampérat, M. (2022). Impact of website visual design on user experience and website evaluation: the sequential mediating roles of usability and pleasure. *Journal of marketing management*, 38(17-18), 2078-2113.
- Kanchan, S., & Gaidhane, A. (2023). Social media role and its impact on public health: a narrative review. *Cureus*, 15(1).
- Lester, P. M. (2006). *Syntactic theory of visual communication*. Retrieved December, 3, 2010.
- March, L., Arnsberg, E., & Melo, M. (2022). Social Media Representations of Makerspaces. *Journal of Learning Spaces*, 11(2), 56-71.
- Melo, M., & Rodney, R. (2023). *The Power of First Impressions: Exploring the Design Impact of 'Small Details' and Signage for First-time Makerspace Users*. International Journal of Academic Makerspaces and Making.

- Panayides, O., & Xinaris, S. (2024, June). *Visual Narratives of Conflict: Exploring the theme of war in Poster Design: Insights from the 2nd Cyprus Poster Triennial*. In 5th International Conference on Semiotics & Visual Communication (ICSVC).
- Radu, I., & Schneider, B. (2023). Designing augmented reality for makerspaces: Guidelines, lessons and mitigation strategies from 5+ years of AR educational projects. *Computers & Education: X Reality*, 2, 100026.
- Sugiyarto, E. A. (2025). The Role of Visual Communication Design Aesthetics In Increasing Consumer Purchasing Power on Social Media. *Buana Komunikasi (Jurnal Penelitian dan Studi Ilmu Komunikasi)*, 6(03), 355-366.
- Tsai, C. J., & Shyr, W. J. (2022). Key factors for evaluating visual perception responses to social media video communication. *Sustainability*, 14(20), 13019.
- Zakoth, D., Mauroner, O., & Emes, J. (2024). The role of makerspaces in innovation processes: an exploratory study. *R&D Management*, 54(2), 398-428.